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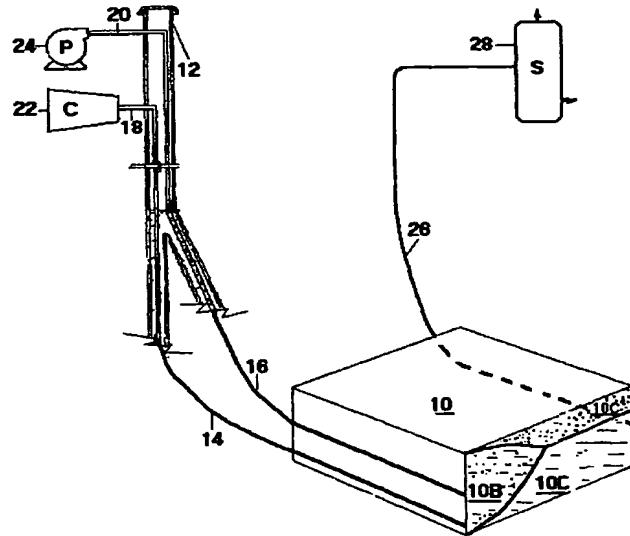
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(54) Title: METHOD FOR IMPROVED VERTICAL SWEEP OF OIL RESERVOIRS



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(57) Abstract: In a WAG flood oil is displaced from a subterranean formation by injecting water alternately with gas into a single injection completion per pattern. The ratio of water to gas injected is the WAG ratio. In this invention, two separate injection completions (14, 16) are used in each pattern, with one placed directly above the other. A very low WAG ratio is used for injection into the bottom extremity of the formation. A very high WAG ratio is injected into the upper interval, at as high a rate can safely be used without fracturing the formation. In the preferred embodiment, two horizontal well bores (14, 16) serve as the two completion intervals. Proper design of this method gives a vertical sweep efficiency of the gas that is several-fold greater than the best of previous WAG flood designs, especially in thin formations.



*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**INTERNATIONAL SEARCH REPORT**

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**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : E21B 43/00  
US CL : 166/245, 268; 703/10

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 166/245, 266, 268, 272.6, 272.7, 275, 401, 402

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| A          | US 6,325,147 B1 (DOERLER et al) 04 December (04.12.2001), col 2, lns 57-64         | 1                     |
| A          | US 4,427,067 (STONE) 24 January 1984 (24.01.1984), col 2, lns 34-49                | 1                     |

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See patent family annex.

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